

Performance	ENGLISH	SI
Channels	4	4
Sensor Input Type(s)	ICP®, Voltage, Charge	ICP®, Voltage, Charge
Voltage Gain	x0.1 to x200	x0.1 to x200
Voltage Gain Increment	0.1	0.1
Accuracy(Gain, x0.1 to x0.4)	± 5 %	± 5 %
Accuracy(Gain, x0.5 to x200)	± 1 %	± 1 %
Sensitivity(± 1 %)(Charge Input @ 100 Hz)	0.1 / 1.0 / 10.0 mV/pC	0.1 / 1.0 / 10.0 mV/pC
Insulation Resistance at Input(Minimum Required)(0.1 mV/pC)	10 kohm	10 kohm
Insulation Resistance at Input(1.0 mV/pC)	100 kohm	100 kohm
Insulation Resistance at Input(10.0 mV/pC)	1 MOhm	1 MOhm
Input Range(Charge Input, Nominal)	± 100,000 pC	± 100,000 pC
Output Range	± 10 Vpk	± 10 Vpk
Frequency Range(-5 %)(x0.1 to x99.9 Gain)	0.05 to 100,000 Hz	0.05 to 100,000 Hz
Frequency Range(-5 %)(x100 to x200 Gain)	0.05 to 75,000 Hz	0.05 to 75,000 Hz
Low Frequency Response(-5 %)(Charge Input)	0.5 Hz	0.5 Hz
Filter Type(Fourth-order Butterworth)	Low Pass	Low Pass
Electrical Filter Roll-off	24 dB/octave	24 dB/octave
Electrical Filter Corner Frequency(-3 dB)	10 kHz	10 kHz
Electrical Filter Roll-off	80 dB/decade	80 dB/decade
Electrical Filter Pass Band Amplitude Accuracy	1 %	1 %
Electrical Filter Stop Band Attenuation(Minimum)	96 dB	96 dB
Phase Response(at 1 kHz)	± 1 °	± 1 °
Linearity(Charge Input)	± 1 % FS	± 1 % FS
Cross Talk(maximum)	-72 dB	-72 dB
TEDS Sensor Support	Yes	Yes
Fault/Bias Monitor/Meter(LED)	Open/Short/Overload	Open/Short/Overload
<b>Control Interface</b>		
Human Interface	Keypad	Keypad
Display	2 rows, 16 columns	2 rows, 16 columns
Digital Control Interface	RS-232	RS-232
Digital Control: Data Rate	19,200 bps	19,200 bps
Digital Control: Start, Data, Stop, Parity	1, 8, 1, No	1, 8, 1, No
Digital Control: Handshaking	RTS/CTS	RTS/CTS
Digital Control: Cable Length(Maximum)	50 ft	15.2 m
Digital Control Interface	Ethernet	Ethernet
<b>Environmental</b>		
Temperature Range(Operating)	+32 to +120 °F	0 to +50 °C
<b>Electrical</b>		
Power Required(for supplied AC power adaptor)	AC Power	AC Power
Power Required(direct input to unit)	DC power	DC power
AC Power(50 to 60 Hz)	100 to 240 VAC	100 to 240 VAC
AC Power	1.6 amps	1.6 amps
Excitation Voltage(To Sensor)	+24 VDC	+24 VDC
DC Offset	≤ 50 mV	≤ 50 mV
DC Power	+9 to +18 VDC	+9 to +18 VDC
DC Power	≤ 2.5 amps	≤ 2.5 amps
Constant Current Excitation(To Sensor)	0 to 20 mA	0 to 20 mA
Output Impedance	≤ 50 Ohm	≤ 50 Ohm
Overload Threshold(± 0.2 Vpk)	+10 Vpk	+10 Vpk
Discharge Time Constant(Charge Input)	1.0 sec	1.0 sec
Broadband Electrical Noise(1 to 10,000 Hz)(Gain x1)	50 µV rms	50 µV rms
Spectral Noise(1 Hz)(Gain x1)	8.0 µV/√Hz	8.0 µV/√Hz
Spectral Noise(10 Hz)(Gain x1)	1.5 µV/√Hz	1.5 µV/√Hz
Spectral Noise(100 Hz)(Gain x1)	1.0 µV/√Hz	1.0 µV/√Hz
Spectral Noise(1 kHz)(Gain x1)	1.0 µV/√Hz	1.0 µV/√Hz
Spectral Noise(10 kHz)(Gain x1)	1.0 µV/√Hz	1.0 µV/√Hz
Broadband Electrical Noise(1 to 10,000 Hz)(Gain x10)	75 µV rms	75 µV rms
Spectral Noise(1 Hz)(Gain x10)	20 µV/√Hz	20 µV/√Hz
Spectral Noise(10 Hz)(Gain x10)	1.5 µV/√Hz	1.5 µV/√Hz
Spectral Noise(100 Hz)(Gain x10)	1.0 µV/√Hz	1.0 µV/√Hz
Spectral Noise(1 kHz)(Gain x10)	1.0 µV/√Hz	1.0 µV/√Hz
Spectral Noise(10 kHz)(Gain x10)	1.0 µV/√Hz	1.0 µV/√Hz
Broadband Electrical Noise(1 to 10,000 Hz)(Gain x100)	350 µV rms	350 µV rms
Spectral Noise(1 Hz)(Gain x100)	100.0 µV/√Hz	100.0 µV/√Hz
Spectral Noise(10 Hz)(Gain x100)	10.0 µV/√Hz	10.0 µV/√Hz
Spectral Noise(100 Hz)(Gain x100)	8.0 µV/√Hz	8.0 µV/√Hz
Spectral Noise(1 kHz)(Gain x100)	6.0 µV/√Hz	6.0 µV/√Hz
Spectral Noise(10 kHz)(Gain x100)	6.0 µV/√Hz	6.0 µV/√Hz
Broadband Electrical Noise(1 to 10,000 Hz)(0.1 mV/pC & Gain x1)	52.0 µV/rms	52.0 µV/rms
Spectral Noise(1 Hz)(0.1 mV/pC & Gain x1)	10.0 µV/√Hz	10.0 µV/√Hz
Spectral Noise(10 Hz)(0.1 mV/pC & Gain x1)	1.5 µV/√Hz	1.5 µV/√Hz
Spectral Noise(100 Hz)(0.1 mV/pC & Gain x1)	0.6 µV/√Hz	0.6 µV/√Hz
Spectral Noise(1 kHz)(0.1 mV/pC & Gain x1)	0.6 µV/√Hz	0.6 µV/√Hz
Spectral Noise(10 kHz)(0.1 mV/pC & Gain x1)	0.6 µV/√Hz	0.6 µV/√Hz
Broadband Electrical Noise(1 to 10,000 Hz)(1.0 mV/pC & Gain x1)	52.0 µV rms	52.0 µV rms
Spectral Noise(1 Hz)(1.0 mV/pC & Gain x1)	14.0 µV/√Hz	14.0 µV/√Hz
Spectral Noise(10 Hz)(1.0 mV/pC & Gain x1)	2.0 µV/√Hz	2.0 µV/√Hz
Spectral Noise(100 Hz)(1.0 mV/pC & Gain x1)	0.7 µV/√Hz	0.7 µV/√Hz
Spectral Noise(1 kHz)(1.0 mV/pC & Gain x1)	0.7 µV/√Hz	0.7 µV/√Hz
Spectral Noise(10 kHz)(1.0 mV/pC & Gain x1)	0.7 µV/√Hz	0.7 µV/√Hz
Broadband Electrical Noise(1 to 10,000 Hz)(10.0 mV/pC & Gain x1)	56.0 µV rms	56.0 µV rms
Spectral Noise(1 Hz)(10.0 mV/pC & Gain x1)	15.0 µV/√Hz	15.0 µV/√Hz
Spectral Noise(10 Hz)(10.0 mV/pC & Gain x1)	2.0 µV/√Hz	2.0 µV/√Hz
Spectral Noise(100 Hz)(10.0 mV/pC & Gain x1)	0.6 µV/√Hz	0.6 µV/√Hz
Spectral Noise(1 kHz)(10.0 mV/pC & Gain x1)	0.6 µV/√Hz	0.6 µV/√Hz
Spectral Noise(10 kHz)(10.0 mV/pC & Gain x1)	0.6 µV/√Hz	0.6 µV/√Hz
Calibration Input(± 1 %)	± 1000 pC/V	± 1000 pC/V
<b>Physical</b>		
Electrical Connector(ICP® Sensor Input)	BNC Jack	BNC Jack
Electrical Connector(Charge Sensor Input)	BNC Jack	BNC Jack
Electrical Connector(Output)	BNC Jack	BNC Jack
Electrical Connector(DC Power Input)	6-socket mini DIN (female)	6-socket mini DIN (female)
Electrical Connector(Charge Calibration Input)	BNC Jack	BNC Jack
Electrical Connector(RS-232 Digital Control)	DB-9 Connector	DB-9 Connector
Electrical Connector(Ethernet)	RJ45	RJ45
Size (Height x Width x Depth)	3.2 in x 8.0 in x 5.9 in	8.1 cm x 20 cm x 15 cm
Weight	2.50 lb	1134 gm

**OPTIONAL VERSIONS**  
Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

- NOTES:**
- [1] User adjustable, factory set at 4 mA (± 1.0 mA). One control adjusts all channels.
  - [2] Typical.
  - [3] The low frequency tolerance is accurate within ±20% of the specified frequency.
  - [4] Frequency tolerance is within ± 5% of the specified value.
  - [5] Contact factory for other available frequencies.
  - [6] Auto sensing 10 base-T or 100 base-TX
  - [7] See PCB Declaration of Conformance PS024 for details.

<p>[1]</p>	<p>[2]</p> <p>[3]</p> <p>[4]</p> <p>[5]</p> <p>[6]</p> <p>[7]</p>
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**SUPPLIED ACCESSORIES:**  
 Model 017AXX Power Cord (1)  
 Model 100-7103-50 (02711) Multi-conductor cable, 6-ft, 9-pin female to 9-pin male. (1)  
 Model 488B14/NC POWER CONVERTOR (1)  
 Model EE75 PCB MCSC Control Software. (1)

Entered: AP	Engineer: AK	Sales: JJM	Approved: JWH	Spec Number:
Date: 2/5/2013	Date: 2/5/2013	Date: 2/5/2013	Date: 2/5/2013	<b>36597</b>



All specifications are at room temperature unless otherwise specified.  
 In the interest of constant product improvement, we reserve the right to change specifications without notice.  
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